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Supplementary material for “Crustal Anisotropy and State of Stress at Uturuncu Volcano,  
Bolivia, from Shear-Wave Splitting Measurements and Magnitude-Frequency  
Distributions in Seismicity”

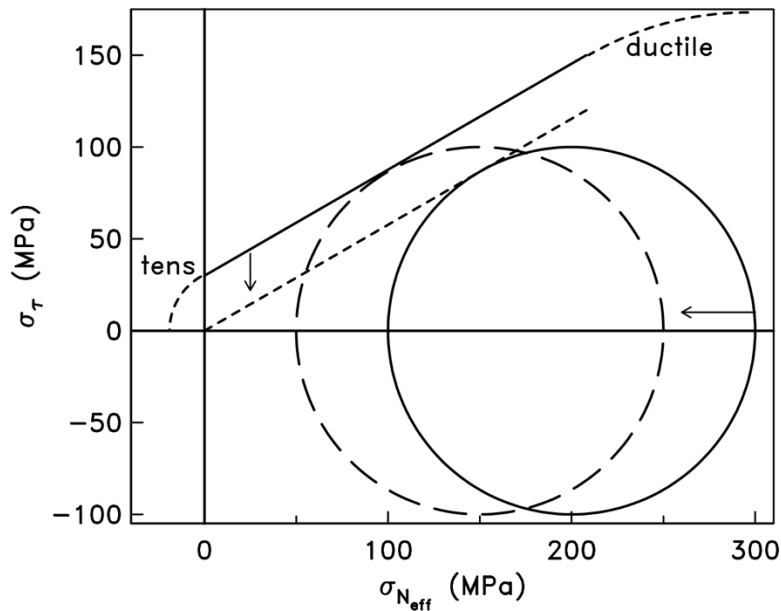


Figure S1. The Mohr's Circle for a stress field where  $\sigma_1$  is 300 MPa and  $\sigma_2$  is 100 MPa. An increase in pore pressure reduces the effective normal stress ( $\sigma_{Neff}$ ) and has the effect of translating our Mohr's Circle to the left (long-dashed line), where it is more likely to intersect the Mohr-Coulomb envelope and failure occurs. Fractures have the effect of weakening a material so that failure occurs at a lower shear stress. The short-dashed straight line shows a case where the cohesion of the material goes to zero - the linear part of the Mohr-Coulomb envelope translates to lower shear stresses ( $\sigma_\tau$ ), as indicated by the vertical arrow. Negative normal stresses mean extension and the material will experience tensile failure. At high normal stresses the material will behave in a more ductile manner.